

53. A laminated composite wood product made by a method comprising the steps of:

- Sub CS
- (a) providing a rigid substrate layer having two substantially flat sides;
 - (b) providing, on each of said sides of the substrate layer, a sheet layer that is substantially saturated with a thermosetting resin;
 - (c) providing, on at least one of said sheet layers, a veneer layer to form a layered structure consisting essentially of said substrate layer, said sheet layers and said veneer layer;
 - (d) providing the layered structure of step (c) in a pressing apparatus; and
 - (e) subjecting the layered structure of step (d) to elevated temperature and pressure in said pressing apparatus for a period sufficient to cure said resin at said temperature and pressure, said pressing apparatus comprising a first platen and a second platen, said first platen operating at a temperature different from an operating temperature of said second platen.
- B3

54. The laminated composite wood product of claim 53, wherein:
in step (e) said operating temperature of said first platen is in a range of about 350°F to about 405°F, and said operating temperature of said second platen is in a range of about 320°F to about 350°F.--

REMARKS

This paper is being presented in response to an official action dated October 28, 1999, wherein: **(a)** claims 14 and 17-25 were pending; **(b)** claim 25 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite; **(c)** claims 14, 17, 18, and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by alleged admissions in the application; **(d)** claims 22 and 23 were rejected under 35 U.S.C. § 103(a) as being obvious over alleged admissions in the application and further in view of Guyette U.S. Patent No. 5,425,986 (hereafter the "986 patent"); **(e)** claim 25 was rejected under § 103(a) as being obvious over alleged admissions in the application and

further in view of Hartman *et al.* U.S. Patent No. 4,239,577 (hereafter the “577 patent”); and, (f) claims 20-22 were rejected under § 103(a) as being obvious over alleged admissions in the application and further in view of Brooker *et al.* U.S. Patent No. 5,723,221 (hereafter the “221 patent”). Reconsideration and withdrawal of the rejections are requested.

Since there is no stated basis for a rejection of claim 19, it is presumed that claim 19 is allowable and an indication to that effect is solicited.

Briefly, the application is directed to a laminated composite wood product not disclosed in, taught by, or suggested by the prior art. Specifically, the applicant has determined that warping of layered composite wood products containing a veneer sheet can be minimized or eliminated by disposing a veneer layer on only one resin-saturated sheet layer. Alternatively or additionally, the warping can be minimized or eliminated by consolidating in a pressing apparatus a layered structure comprising a rigid substrate layer having two substantially flat sides, a resin-saturated sheet layer disposed on each of said sides, and a veneer layer disposed on at least one of said sheet layers, wherein the pressing apparatus includes a first platen operating at an elevated temperature different from an elevated operating temperature of a second platen. The elevated temperature and pressure are provided for a time sufficient to cure the resin. The applicant's discovery is a marked advance over prior products which were prepared by cumbersome balancing techniques (*i.e.*, utilization of veneer layers on both sides of the substrate, or alternatively an unnecessary heavy duty backer paper) and still did not possess the inventive characteristics of the products recited in the claims of this application.

The specification has been amended at page 1 to update the Cross-Reference to Related Application by identifying U.S. Patent No. 5,925,211, which issued on July 20, 1999, from U.S. patent application Serial No. 08/844,734 filed April 21, 1997.

Claims 14 and 17 have been amended to recite the that a veneer layer is disposed on only one of the resin-saturated sheet layers. Support for the amendment

to claims 14 and 17 is found in the specification at, for example, page 4, line 28 to page 5, line 15, and the sole drawing figure.

Entry of new claims 26-54 is respectfully requested.

New claims 26-36 depend (either directly or indirectly) from amended claim 14. Support for dependent claims 26-36 can be found in claims 2-13 of the originally-filed parent application Serial No. 08/844,734, now U.S. Patent No. 5,925,211.

New, independent claim 37 recites a laminated composite wood product made by a method substantially similar to the originally-filed claim 14, with the exception that new claim 37 recites the additional feature that the pressing apparatus includes "a first platen and a second platen," wherein each platen operates at a different temperature with respect to each other. Support for new, independent claim 37 is found in the specification at, for example, page 7, line 32 to page 8, line 2 and lines 24-37, wherein it is stated that each of the first and second platens operate at different temperatures. Additionally, the specification states that press temperatures for each of the first platen and the second platen are carefully selected to minimize and/or avoid the tendency of the laminate to warp.

Claims 38-50 depend (either directly or indirectly) from claim 37 and correspond to newly-added dependent claims 26-36, respectively. Support for dependent claims 38-50 can be found in claims 2-13 of the originally-filed parent application Serial No. 08/844,734, now U.S. Patent No. 5,925,211.

Support for independent claim 51 and claim 52, dependent therefrom, can be found in claims 15 and 16, respectively, of the originally-filed parent application Serial No. 08/844,734, now U.S. Patent No. 5,925,211.

Claim 53, which is similar to claim 51, contains limitations similar to those recited in new claim 37. Claim 54 depends directly from claim 53 and corresponds to new claim 52.

It is submitted that no new matter is being introduced by the addition of new claims 26-54.

The application as originally filed contained ten total claims, including two independent claims. With the entry of claims 26-54, there will be pending 39 total claims, including five independent claims. Accordingly, submitted herewith is a check in the amount of \$498.00 to cover the fee established under 37 C.F.R. §§ 1.16(b) and 1.116(c) for filing 19 claims (in excess of 20), including two independent claims (in excess of three). Any additional required fee may be charged to our Deposit Account No. 13-2855. Any overpayment should be refunded to the undersigned attorney's law firm at the address indicated below.

Also submitted herewith is a paper entitled "Transmittal of Formal Drawings" enclosing one-sheet of formal drawings for substitution in the application.

35 U.S.C. § 112, Second Paragraph, Rejection of Claim 25

With reference to paragraphs 1 and 2 of the official action wherein the examiner has rejected claim 25 under 35 U.S.C. § 112, second paragraph, because the recitation of "wood-like" allegedly renders the claim indefinite, claim 25 has been amended to substitute --wood-- for "wood-like." As amended, claim 25 now recites that the "veneer layer comprises a wood material having a moisture content of about 7 wt.% to about 10 wt.% based on the weight of the veneer." Support for the amendment is found in the specification at, for example, page 7, lines 8-21, wherein it is stated that "[a]ny wood-like material is suitable as a veneer material." The specification specifically states at page 7, lines 9-14, that exemplary wood materials generally include softwood materials, man-made wood materials, hardwood materials, wood composite materials, and high pressure laminates. In view of the amendment to claim 25, reconsideration and withdrawal of the § 112, second paragraph, rejection are requested.

35 U.S.C. § 102(b) Rejection
Based on Alleged Admissions in the Application

The applicant respectfully traverses the § 102(b) rejection of claims 14, 17, 18, and 24 as being anticipated by alleged admissions in the application.

Reconsideration and withdrawal of the rejection are requested.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The applicant does not dispute the alleged admissions, set forth in complete detail in the “Background of the Invention” section of the application. However, citations in paragraph four of the official action to passages in the “Background of the Invention” section of the application in support of the § 102(b) rejection fail to identify each and every element set forth in the pending claims. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick*, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984) (stating that “it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference”). Accordingly, the applicant submits that such disclosure does not anticipate claims 14, 17, 18, and 24.

Specifically, independent claims 14 and 17 recite a “resin-saturated sheet layer,” which is not expressly or inherently described in the alleged admissions. Furthermore, independent claims 14 and 17 recite that a resin-saturated sheet layer is disposed on each of two substantially flat sides of a rigid substrate layer. This feature also is not expressly or inherently described in the alleged admissions. Still further, amended, independent claims 14 and 17 recite the presence of a veneer layer on only one of the resin-saturated sheet layers—yet another feature not expressly or inherently described in the alleged admissions. Additionally, the alleged admissions do not expressly or inherently describe the layered structure recited in clause (a) of claim 14 and in claim 17.

Resin-coated sheet layers and resin-saturated sheet layers are not equivalent. In fact, the specification at, for example, page 2, lines 24-27, expressly teaches against the use of resin-coated sheet layers, as layered wood composite

structures made according to conventional compression molding press processes (*e.g.*, those utilizing single resin-coated paper layers) undesirably experience excessive warping toward the veneer side. As stated in the specification at, for example, page 8, lines 14-22, an important feature of the invention is the utilization of resin-saturated or resin-impregnated (as opposed to resin-coated) sheets on **both** top and bottom surfaces of the substrate material to ensure minimal warping of the substrate. Distinctions between (a) resin-saturated or resin-impregnated sheets and (b) resin-coated sheets can be found in the specification at, for example, page 6, line 16 to page 7, line 7.

In sum, because the alleged admissions fail to teach or suggest the resin-saturated sheet layers, the disposition of said layers on each of two substantially flat sides of a rigid substrate layer, the presence of a veneer layer on only one of the resin-saturated sheet layers, and the layered structure recited in clause (a) of claim 14 and in claim 17, the alleged admissions do not anticipate independent claims 14 and 17. Because independent claims 14 and 17 are not anticipated by the alleged admissions, it follows that no claims dependent therefrom (*e.g.*, claims 18-36) are anticipated by the alleged admissions. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Accordingly, neither the laminated wood composite product nor its method of manufacture is anticipated by the alleged admissions. In fact, said product and method of manufacture are patentable over the alleged admissions based on the superior and unexpected results obtained, *i.e.*, the minimization of warpage without the necessity of cumbersome balancing techniques of the prior art. Therefore, reconsideration and withdrawal of the § 102(b) rejection are requested.

35 U.S.C. § 103(a) Rejections

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine the teachings of a plurality of references. Second,

there must be a reasonable expectation of success. Finally, the prior art reference or references when combined must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's own disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

The examiner bears the burden of establishing a *prima facie* case of obviousness and "can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). To support a conclusion that a claimed combination is obvious, either: (a) the reference must expressly or impliedly suggest the claimed combination to one of ordinary skill in the art, or (b) the examiner must present a convincing line of reasoning as to why a person of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the reference. *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985).

A. § 103(a) Rejection of Claims 22 and 23 Is Traversed

The § 103(a) rejection of Claims 22 and 23 over alleged admissions in view of the '986 patent is traversed, and reconsideration and withdrawal of the rejection are requested.

Neither the alleged admissions nor the '986 patent recognizes that lamination warping can be prevented without cumbersome balancing techniques (*i.e.*, utilization of veneer layers on both sides of the substrate, or alternatively an unnecessary heavy duty backer paper) and/or by maintaining different press platen temperatures. Furthermore, none of the applied references, including the '986 patent, disclose or suggest the presence of a veneer layer disposed on **only** one of the resin-saturated sheet layers as recited in each of claims 22 and 23. Still further, none of the applied references, including the '986 patent, disclose or suggest the combination of the various layers of rigid substrate, resin-saturated sheets, and veneer with the further

limitations of the particular type of resin (claim 22) and resin-saturated sheets (claim 23). Absent an express or implied teaching or suggestion of each and every limitation of claims 22 and 23, these claims are not *prima facie* obvious.

B. § 103(a) Rejection of Claim 25 Is Traversed

The § 103(a) rejection of Claim 25 over alleged admissions in view of the '577 patent is traversed, and reconsideration and withdrawal of the rejection are requested.

Neither the alleged admissions nor the '577 patent recognizes that lamination warping can be prevented without cumbersome balancing techniques (*i.e.*, utilization of veneer layers on **both** sides of the substrate, or alternatively an unnecessary heavy duty backer paper). Furthermore, none of the applied references, including the '577 patent, disclose or suggest the presence of a veneer layer disposed on **only** one of the resin-saturated sheet layers as recited in claims 25. To the contrary, the '577 patent at, for example, column 3, lines 10-13, mandates the presence of two veneer layers. Veneer layers typically provide improved aesthetic qualities to a wood product. However, the additional veneer layer does not serve such a purpose where the product is to be used as a countertop or in a cabinet, since the additional veneer layer will not be visible—its purpose is merely intended to provide a measure of balance to a layered structure during consolidation. Neither the '577 patent nor the other applied prior art suggest that a veneer sheet should be placed on **only** one of the resin-saturated sheet layers and that doing so will nevertheless result in a product that does not exhibit excessive warpage. Absent an express or implied teaching or suggestion of each and every limitation of independent claim 17 and claim 25, dependent therefrom, claim 25 is not *prima facie* obvious.

C. § 103(a) Rejection of Claims 20-22 Is Traversed

The § 103(a) rejection of Claims 20-22 over alleged admissions in view of the '221 patent is traversed, and reconsideration and withdrawal of the rejection are requested.

Neither the alleged admissions nor the '221 patent recognizes that lamination warping can be prevented without cumbersome balancing techniques. Furthermore, none of the applied references, including the '221 patent, disclose or suggest the presence of a veneer layer disposed on **only** one of the resin-saturated sheet layers as recited in independent claim 17 and claims 20-22, dependent therefrom. To the contrary, the '221 patent at, for example, column 2, lines 56-60, teaches the presence of a single ply of solid color or print paper on **each** surface of the core board to balance the board and prevent the laminate from warping during consolidation. Neither the '221 patent nor the other applied prior art suggest that a veneer sheet should be placed on **only** one of the resin-saturated sheet layers and that doing so will nevertheless result in a product that does not exhibit excessive warpage. Further, neither the '221 patent nor the alleged admissions disclose or suggest the combination of the various layers of rigid substrate, resin-saturated sheets, and veneer with the further limitations of the particular type of resin (claim 20-22). Absent an express or implied teaching or suggestion of each and every limitation of independent claim 17 and claims 20-22, dependent therefrom, claims 20-22 are not *prima facie* obvious.

Patentability of Claims 26-54 Over Prior Art of Record

It is submitted that newly-added claims 26-54 are patentable over the prior art of record.

Specifically, based on the patentability of amended claim 14 (as set forth above), it is submitted that claims 26-36, dependent therefrom are also patentable (*i.e.*, new and non-obvious). *See In re Fine*, 5 U.S.P.Q.2d at 1600.

The laminated composite wood product recited in claim 37 is patentable over the prior art of record because *inter alia* it is prepared utilizing different press platen temperatures. This, in turn, results in a product exhibiting minimal warpage—a product which **cannot** be made according to the prior art without the use of cumbersome balancing techniques (*i.e.*, utilization of veneer layers on both sides of the substrate, or alternatively an unnecessary heavy duty backer paper). Claims 38-50

which depend from claim 37 also are patentable as they further limit the scope of patentable claim 37. *See In re Fine*, 5 U.S.P.Q.2d at 1600.

Claims 51 and 52 are patentable over the prior art of record because *inter alia* the features of (a) different press platen temperatures and (b) the presence of a veneer layer on only one resin-saturated sheet layer are neither disclosed nor taught by any prior art reference. These features are useful in preventing warpage and/or ensuring minimum warpage.

Claims 53 and 54 are patentable over the prior art of record because *inter alia* the feature of different press platen temperatures is neither disclosed nor taught by any prior art reference. As previously noted, use of different press platen temperatures results in a product exhibiting minimal warpage—a product which **cannot** be made according to the prior art without the use of cumbersome balancing techniques (*i.e.*, utilization of veneer layers on both sides of the substrate, or alternatively an unnecessary heavy duty backer paper).

CONCLUSION

In summary, the applicant respectfully requests entry of the amendments to the specification and to claims 14, 17, and 25, entry of new claims 26-54, reconsideration and withdrawal of the rejections, and allowance of all pending claims 14 and 17-54.

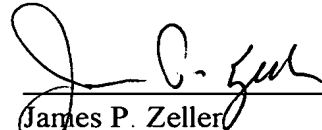
Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, he is urged to telephone the undersigned attorney at the indicated number.

Respectfully submitted,

MARSHALL, O'TOOLE, GERSTEIN,
MURRAY & BORUN

January 10, 2000

By:



James P. Zeller

Reg. No. 28,491

Attorneys for Applicant

6300 Sears Tower

233 South Wacker Drive

Chicago, Illinois 60606-6402

(312) 474-6300